

Unit 5

Factoring

Day 1

Factoring Using Integers - Part 1

## Factoring Using the GCF

1)  $-8a^5 + 24a^3 - 44a^2$

$$-4a^2(2a^3 - 6a + 11)$$

2a)

$$5(x+3)^2 - 7(x+3)$$

$$(x+3)[5(x+3) - 7]$$

$$(x+3)(5x+15-7)$$

$$(x+3)(5x+8)$$

$$5x^2 - 7x$$

2b)

$$5(x+3)^2 - 15(x+3)$$

$$5(x+3)(x+3-3)$$

$$5(x+3)(x)$$

## FACTORING THE DIFFERENCE OF SQUARES

1)  $4a^2 - 25$

$$(2a + 5)(2a - 5)$$

2)  $16x^{2r} - y^{6s}$

$$(4x^r + y^{3s})(4x^r - y^{3s})$$

# FACTORING PERFECT SQUARE TRINOMIALS

1)  $9m^2 + 30m + 25$

$(3m+5)$   ~~$(3m+5)(\quad)$~~

$(3m+5)^2$

2)  $x^6 - 14x^3 + 49$

$(x^3 - 7)^2$

## FACTOR BY GROUPING

1)

$$\begin{aligned} & (a^2 - ab) + (-5a + 5b) \\ & a(a-b) + (-5)(a-b) \\ & (a-b)(a-5) \end{aligned}$$

2)

$$\begin{aligned} & m^2 - 4n - 4m - n^2 \\ & \cancel{(m^2 - 4m) + (-n^2 - 4n)} \\ & \cancel{m(m-4) + (-n)(n+4)} \\ & m^2 - n^2 + (-4m - 4n) \\ & (m+n)(m-n) + (-4)(m+n) \\ & (m+n)(m-n-4) \end{aligned}$$

## HOMEWORK:

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